



HEALTH PROMOTION

Digital Health Literacy and Health-Seeking Behaviour Among Hospital Outpatients: Evidence from Traditional, Professional and Online Search Patterns

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Keywords

Digital competence • Health information literacy • Health-seeking behaviour • Outpatients • Preventive medicine

Summary

Introduction. Digital health literacy may shape how patients seek health information in increasingly digitalized environments where patients use computers, smartphones, tablets and AI-supported search tools to access health information. This study examined the association between digital health literacy competencies and traditional, professional and online health-seeking behaviour among hospital outpatients.

Methods. A cross-sectional descriptive-correlational survey was conducted with 400 volunteer outpatients aged 18 years and older at a training and research hospital in Türkiye. Participants were recruited equally from pulmonology, internal medicine, obstetrics and gynaecology, ophthalmology and cardiology clinics using quota-based convenience sampling. Data were collected using demographic questions, the Health-Seeking Behaviour Scale and the Digital Health Literacy Competency Scale for Citizens. Non-parametric group comparisons and Spearman correlation analyses were performed using SPSS 26.

Results. Traditional health-seeking behaviour had the highest mean score, followed by professional and online health-seeking behaviour. Online health-seeking behaviour was positively correlated with health information literacy ($r_s=.446$, $p<.001$) and digital competence ($r_s=.493$, $p<.001$). Online health-seeking behaviour, health information literacy and digital competence decreased with age and increased with education. Women reported higher online health-seeking behaviour and digital competence than men.

Conclusion. Digital health literacy competencies were most clearly associated with online health-seeking behaviour; while traditional and professional sources remained important. Outpatient clinics may be useful settings for practical, age-sensitive and education-sensitive digital health literacy support.

Introduction

Digital technologies have changed how patients access health information, arrange appointments, review test results, and communicate with health services. These developments have expanded health literacy beyond reading and understanding written health materials. Patients are increasingly expected to locate, evaluate, and apply health information in digital environments, often before they meet a clinician or after they leave an outpatient clinic [1, 2].

Digital health literacy refers to the competencies required to access, understand, evaluate, and use health information through digital technologies. It includes the ability to judge the quality of digital information, identify reliable sources, and use online information in ways that support appropriate health decisions [3, 4]. These competencies are relevant to patient engagement, decision-making, communication with health professionals, and effective use of health services [5, 6]. The importance of digital health literacy has increased because digital health information is abundant but uneven in quality. Patients may encounter official portals,

hospital websites, social media posts, commercial platforms, personal blogs, or artificial intelligence-supported search tools. Access to information alone therefore does not guarantee informed decision-making. Patients also need the ability to compare sources, understand uncertainty, recognize misinformation, and decide when professional consultation is required.

Türkiye provides a relevant setting for examining this issue because digital access is widespread but not uniformly converted into digital health competence. National ICT statistics show that internet use among individuals aged 16-74 increased to 88.8% in 2024, while household internet access reached 96.4% [14]. Mobile connectivity is also extensive; early-2024 estimates reported 80.69 million cellular mobile connections, equivalent to 93.8% of the population, indicating that smartphones are a major route into digital environments [15]. At the same time, PCs, tablets and smartphones differ in usability, screen size, privacy, and ability to complete formal health-service tasks. Artificial intelligence is also becoming part of the digital information environment: even where organizational adoption remains uneven, AI-supported search, recommendation and conversational

tools may increasingly influence how patients formulate questions, interpret symptoms and evaluate online health information [16, 17].

Health-seeking behaviour is also central to patient engagement. Individuals may respond to health concerns by consulting family members or trusted social contacts, seeking support from health professionals, or searching for information online [7, 8]. These pathways can be conceptualized as traditional, professional, and online health-seeking behaviours. In digitalized health environments, these forms do not necessarily replace one another. Patients may use digital information while continuing to rely on professional and informal sources. Hospital outpatients are an important group for studying these relationships. Unlike general population samples, outpatients are already interacting with the health system and may have immediate health concerns, diagnostic needs, chronic disease follow-up, or prior service-use experiences. They may also use digital platforms before, during, or after outpatient encounters to interpret symptoms, prepare questions, use appointment systems, or understand test results.

This outpatient context is particularly relevant for health literacy research because it connects information behaviour with real service use. A person attending an outpatient clinic may have searched the internet before the visit, may ask a clinician to confirm information obtained from relatives or online sources, and may use digital systems afterward to follow results or recommendations. For this reason, outpatient settings provide an opportunity to understand digital health literacy as part of a broader pattern of health-seeking rather than as an isolated technical skill.

Previous studies have examined health literacy, eHealth literacy, digital literacy, and health information-seeking behaviour in different populations [3, 8, 9]. However, the association between digital health literacy competencies and multiple forms of health-seeking behaviour among hospital outpatients remains insufficiently clarified. This distinction matters because digital health engagement may complement, rather than replace, face-to-face and socially embedded health-seeking practices.

The aim of this study was to examine the relationship between digital health literacy competencies and traditional, professional, and online health-seeking behaviours among adult hospital outpatients. The primary expectation was that higher digital health literacy competencies would be positively associated with online health-seeking behaviour. Differences according to gender, age, education, occupation, and outpatient clinic type were examined as exploratory subgroup analyses.

CONCEPTUAL FRAMEWORK

This study conceptualizes digital health literacy as an overarching construct that includes both health information literacy and digital competence. Health information literacy refers to the ability to understand, evaluate, and apply health-related information, whereas digital competence refers to the ability to use digital

tools and digital environments to obtain, assess, and manage health information.

This distinction is important because digital health literacy is frequently reduced to internet use or technical access. In this study, the Health-Seeking Behaviour Scale and the Digital Health Literacy Competency Scale for Citizens were therefore treated as two different but related measurements. The Health-Seeking Behaviour Scale captures the practical behaviour of seeking help or information through traditional, professional and online channels. By contrast, the Digital Health Literacy Competency Scale for Citizens captures the competence needed to understand health information and to use digital tools when managing online health information. Health-seeking behaviour was treated as a multidimensional construct consisting of traditional, professional, and online domains. Traditional health-seeking refers to informal and socially embedded practices, professional health-seeking refers to consulting health professionals, and online health-seeking refers to searching digital sources for health information. These are actions or behavioural pathways, not technical skills. The three health-seeking domains may overlap in everyday patient behaviour. Online searching may lead a patient to seek professional help, professional advice may encourage a patient to use a digital portal, and family members may guide older adults in using online systems. Therefore, higher online health-seeking should not automatically be interpreted as lower professional care use, and higher traditional health-seeking should not be interpreted as resistance to digital health. The relationships among these domains require cautious interpretation.

This framework avoids treating digital health engagement as a replacement for professional or traditional health-seeking. Instead, it examines whether digital health literacy is associated most strongly with online health-seeking while recognizing that outpatients may combine multiple sources of information and support. This approach is suitable for outpatient settings, where patients are simultaneously exposed to clinical advice, social support, and digital information.

Methods

STUDY DESIGN AND SETTING

This cross-sectional descriptive-correlational study was conducted among adult outpatients at Samsun Training and Research Hospital in Türkiye. The selected outpatient clinics were pulmonology, internal medicine, obstetrics and gynecology, ophthalmology, and cardiology. These clinics were selected because they were the five departments with the highest number of outpatient visits according to hospital records during the study period from August 9, 2024, to December 9, 2024. The study was designed to describe digital health literacy competencies and health-seeking behaviour patterns and to examine associations among their subdimensions. Because the design was cross-sectional, the analyses

identify associations at one point in time and do not establish causal direction. This design was considered appropriate for an outpatient survey intended to generate evidence on patient information behaviour in a clinical service environment.

PARTICIPANTS AND SAMPLING

The study population consisted of patients aged 18 years and older who applied for outpatient care at the selected clinics. Patients younger than 18 years, emergency department patients, and patients attending clinics outside the five selected departments were excluded. The five selected clinics had 245,923 outpatient visits during the reference period.

The minimum required sample size was calculated as 385 participants, and 400 volunteers were included to account for possible incomplete responses. Participants were recruited using quota-based convenience sampling. Eighty participants were recruited from each clinic, corresponding to 20% of the sample per clinic. This balanced design enabled exploratory clinic comparisons but should not be interpreted as a probability sample of all outpatients.

The quota approach was used to avoid the dominance of a single high-volume clinic in the sample. However, because patients were recruited voluntarily and not randomly selected from all eligible outpatient visits, the sample should be understood as a balanced outpatient sample rather than a representative hospital-wide sample. Clinic-based comparisons are therefore reported as exploratory findings.

DATA COLLECTION

Data were collected through a face-to-face questionnaire administered by the researcher in outpatient clinic settings. Eligible patients were invited to participate voluntarily. Before completing the questionnaire, participants were informed about the study purpose, voluntary participation, and confidentiality of responses. The same questionnaire and data collection procedure were used across all five clinics.

Face-to-face data collection was preferred because the study included participants with different ages and education levels and because some patients may have had limited familiarity with digital questionnaires. This approach helped ensure that participants could complete the survey in a consistent manner. At the same time, the face-to-face procedure may have introduced social desirability bias, especially in questions concerning digital skills or health-seeking practices. This possibility is acknowledged in the limitations.

MEASURES

The questionnaire included demographic questions, the Health-Seeking Behaviour Scale, and the Digital Health Literacy Competency Scale for Citizens. Demographic variables included gender, age, education level, occupation, and outpatient clinic type. Residential area was not included as a questionnaire variable; therefore, urban-rural comparisons could not be performed.

Health-seeking behaviour was measured using the Health-Seeking Behaviour Scale developed by Kırac and Öztürk [7]. The scale includes 12 items and three subdimensions: traditional, professional, and online health-seeking behaviour. Items are scored on a five-point Likert-type response format; therefore, scale values are ordinal/discontinuous at the item level. Traditional health-seeking reflects reliance on informal sources and previous experiences; professional health-seeking reflects consulting health professionals; and online health-seeking reflects the use of digital or internet-based sources for health information.

Digital health literacy competencies were measured using the Digital Health Literacy Competency Scale for Citizens, adapted by İder [13]. The scale includes 26 items and two subdimensions used in this study: health information literacy and digital competence. Health information literacy reflects the ability to understand, evaluate, and use health-related information. Digital competence reflects the ability to use digital tools and digital environments to access and evaluate health information. Thus, this scale measures competence, whereas the Health-Seeking Behaviour Scale measures behavioural actions.

RELIABILITY AND STATISTICAL ANALYSIS

Internal consistency coefficients were calculated for the scale scores in the present sample. Cronbach alpha was .953 for the Digital Health Literacy Competency Scale for Citizens and .698 for the Health-Seeking Behaviour Scale. The latter value was interpreted cautiously as marginal but acceptable for exploratory analysis. Reliability was therefore described as the internal consistency of the scores obtained in this sample rather than as a fixed property of the instruments.

Data were analysed using SPSS 26. Descriptive statistics summarized participant characteristics and scale scores. Because the Health-Seeking Behaviour Scale uses five-point Likert-type responses and the relevant variables did not meet normality assumptions, inferential analyses were based on nonparametric methods. Mann-Whitney U tests were used for two-group comparisons, Kruskal-Wallis tests for comparisons involving more than two groups, and post hoc comparisons for significant Kruskal-Wallis results. Spearman rank correlation coefficients examined associations among scale subdimensions. Medians and ranges were emphasized in group comparisons, while means and standard deviations were retained only as conventional descriptive summaries of aggregated scale scores.

Statistical significance was set at $p < .05$; p values smaller than .001 were reported as $p < .001$. The primary analysis focused on the relationship between digital health literacy competencies and online health-seeking behaviour. Comparisons by gender, age, education, occupation, and clinic type were treated as exploratory subgroup analyses. Because multivariable adjustment was not performed, subgroup findings and correlations were interpreted as associations rather than independent effects.

ETHICS

Ethical approval was obtained from Ondokuz Mayıs University, and institutional permission was obtained from Samsun Training and Research Hospital before data collection. Participation was voluntary, and informed consent was obtained from participants. No personally identifying information was reported in the manuscript.

Results

PARTICIPANT CHARACTERISTICS

A total of 400 outpatients participated in the study. Participants were recruited equally from five clinics, with 80 participants from each clinic. The sample included 234 women and 166 men. The largest age group was 18-33 years, followed by 34-49 years, 50-65 years, and 66 years and older. Most participants had completed high school or higher education. The occupational category labelled “other” included a large proportion of the sample and should therefore be interpreted cautiously. Participant characteristics are shown in Table I.

DESCRIPTIVE FINDINGS

Traditional health-seeking behaviour had the highest descriptive score ($M=4.69$, $SD=0.56$), followed by professional health-seeking behaviour ($M=3.40$, $SD=1.38$) and online health-seeking behaviour ($M=2.85$, $SD=1.04$). Health information literacy had a mean score of 5.15 ($SD=2.07$), and digital competence had a mean score of 4.29 ($SD=1.84$). Because the HBS

Tab. II. Descriptive Statistics for Scale Subdimensions.

Subdimension	Mean	SD	Minimum	Maximum
Online health-seeking	2.85	1.04	1.00	5.00
Traditional health-seeking	4.69	0.56	1.00	5.00
Professional health-seeking	3.40	1.38	1.00	5.00
Health information literacy	5.15	2.07	0.00	7.00
Digital competence	4.29	1.84	0.00	7.00

Note. HBS subdimensions are based on five-point Likert-type responses (1-5). DHLC subdimensions are scored on a 0-7 metric. Higher values indicate higher levels of the relevant behaviour or competence. Means and SDs are descriptive summaries of aggregated scale scores; nonparametric tests and median-based group summaries were used for inferential comparisons.

is based on a five-point Likert-type format and the analyses were nonparametric, these mean values should be interpreted as descriptive summaries rather than as evidence of interval-level measurement. Descriptive statistics and scale interpretation notes are shown in Table II.

GROUP DIFFERENCES

Women reported higher online health-seeking behaviour than men (median 3.00 vs. 2.33; $z=-3.395$, $p=.001$). Digital competence also differed by gender, with higher median scores among women than men (5.00 vs. 3.88; $z=-3.562$, $p<.001$). Health information literacy did not differ significantly by gender ($z=0.599$, $p=.549$).

Age-based comparisons showed significant differences in online health-seeking behaviour, professional health-seeking behaviour, health information literacy, and digital competence. Online health-seeking behaviour declined across age groups ($H=76.613$, $p<.001$), while professional health-seeking behaviour increased with age ($H=28.227$, $p<.001$). Traditional health-seeking behaviour did not differ significantly by age ($H=14.367$, $p=.065$). Digital competence showed a pronounced age-related difference ($H=167.790$, $p<.001$).

Education-based comparisons showed significant differences in online and professional health-seeking behaviour. Online health-seeking behaviour increased with education ($H=63.888$, $p<.001$), while professional health-seeking behaviour differed by education ($H=41.204$, $p<.001$), with lower median scores among participants with higher education. Health information literacy ($H=82.341$, $p<.001$) and digital competence ($H=142.043$, $p<.001$) also differed significantly by education level.

Occupation-based comparisons showed significant differences in online health-seeking behaviour, professional health-seeking behaviour, health information literacy, and digital competence. Retirees generally had lower online health-seeking behaviour, health information literacy, and digital competence scores than several other occupational groups. Clinic-based comparisons also showed significant differences

Tab. I. Participant Characteristics.

Characteristic	Category	n	%
Gender	Female	234	58.5
	Male	166	41.5
Age	18-33 years	160	40.0
	34-49 years	117	29.3
	50-65 years	89	22.3
	66 years and older	34	8.5
Education	Primary school	69	17.3
	Middle school	42	10.5
	High school	136	34.0
	Higher education	141	35.3
Occupation	Master's degree	12	3.0
	Civil servant	60	15.0
	Worker	49	12.3
	Retired	69	17.3
	Other	222	55.5
Clinic	Pulmonology	80	20.0
	Internal medicine	80	20.0
	Obstetrics and gynecology	80	20.0
	Ophthalmology	80	20.0
	Cardiology	80	20.0

Note. Percentages are based on $N=400$. Clinic quotas were fixed at 80 participants per clinic. Residential area (urban/rural) was not collected and could not be compared.

Tab. III. Selected Group Comparisons.

Variable	Comparison	Finding	Test statistic	<i>p</i>
Gender	Online health-seeking	Women > men	$z=-3.395$	.001
Gender	Digital competence	Women > men	$z=-3.562$	< .001
Age	Online health-seeking	Decreased with age	$H=76.613$	< .001
Age	Professional health-seeking	Increased with age	$H=28.227$	< .001
Age	Digital competence	Decreased with age	$H=167.790$	< .001
Education	Online health-seeking	Increased with education	$H=63.888$	< .001
Education	Digital competence	Increased with education	$H=142.043$	< .001

Note. Findings summarize the direction of statistically significant nonparametric comparisons. Median values are reported in the text for key two-group comparisons. H =Kruskal-Wallis statistic; z =Mann-Whitney U standardized statistic.

Tab. IV. Spearman Correlations Among Scale Subdimensions.

Variable	1	2	3	4	5
1. Online health-seeking	-				
2. Traditional health-seeking	.095	-			
3. Professional health-seeking	-.130**	-.038	-		
4. Health information literacy	.446***	.303***	-.172**	-	
5. Digital competence	.493***	-.021	-.197***	.548***	-

Note. Values are Spearman rank correlation coefficients (r_s), used because the scale distributions were non-normal and Likert-type scores are ordinal/discontinuous at the item level. ** $p<.01$; *** $p<.001$.

in online health-seeking behaviour, professional health-seeking behaviour, health information literacy, and digital competence. Because occupational and clinic comparisons were exploratory, they should be interpreted cautiously. Selected group comparisons are summarized in Table III.

CORRELATIONS AMONG SCALE DIMENSIONS

Spearman correlation analyses showed that online health-seeking behaviour was positively correlated with health information literacy ($r_s=.446$, $p<.001$) and digital competence ($r_s=.493$, $p<.001$). Online health-seeking behaviour was weakly and negatively correlated with professional health-seeking behaviour ($r_s=-.130$, $p=.009$). Traditional health-seeking behaviour was weakly and positively correlated with health information literacy ($r_s=.303$, $p<.001$) but not significantly correlated with digital competence ($r_s=-.021$, $p=.668$). Professional health-seeking behaviour was weakly and negatively correlated with health information literacy ($r_s=-.172$, $p=.001$) and digital competence ($r_s=-.197$, $p<.001$). Health information literacy was moderately and positively correlated with digital competence ($r_s=.548$, $p<.001$). Correlations are shown in Table IV.

Discussion

This study examined the relationship between digital health literacy competencies and health-seeking behaviour among hospital outpatients in Türkiye. The main finding was that digital health literacy was most clearly associated with online health-seeking behaviour. Participants with higher health information literacy and digital competence reported higher online health-seeking

scores. This finding is consistent with the expectation that patients who can understand health information and use digital tools are more likely to search for health information online. However, the cross-sectional design does not allow causal interpretation.

The positive correlations between online health-seeking behaviour and the two digital health literacy dimensions are meaningful for outpatient care in a setting where internet and mobile access are widespread [14, 15]. Patients who are able to interpret health information and use digital tools may be better positioned to search for information before visits, prepare questions, and follow up on recommendations after clinical encounters. At the same time, frequent online searching may itself contribute to the development of digital competence. The observed association should therefore be understood as reciprocal or mutually reinforcing rather than one-directional.

Traditional health-seeking behaviour had the highest descriptive score ($M=4.69$, $SD=0.56$), followed by professional health-seeking behaviour ($M=3.40$, $SD=1.38$) and online health-seeking behaviour ($M=2.85$, $SD=1.04$). Health information literacy had a mean score of 5.15 ($SD=2.07$), and digital competence had a mean score of 4.29 ($SD=1.84$). Because the HBS is based on a five-point Likert-type format and the analyses were nonparametric, these mean values should be interpreted as descriptive summaries rather than as evidence of interval-level measurement. Descriptive statistics and scale interpretation notes are shown in Table II.

The persistence of traditional health-seeking behaviour has practical significance. Digital health education programmes may be less effective if they assume that patients make decisions only as individual users of online information. In many cases, patients interpret health

information within family and social networks. Health educators may therefore need to design messages that encourage patients to verify informal advice, to discuss online or socially obtained information with health professionals, and to recognize when AI-supported tools provide general information rather than clinical judgement [17].

Professional health-seeking behaviour showed weak negative correlations with health information literacy and digital competence. This result should not be interpreted as evidence that digital health literacy reduces appropriate professional care. Several alternative explanations are possible. Individuals with higher digital health literacy may use online information to decide when consultation is necessary, while older adults or individuals with greater health needs may rely more strongly on professional care. In this study, professional health-seeking behaviour increased with age, which may reflect greater health service needs, chronic disease burden, or more frequent interaction with clinicians.

Age and education differences were especially important. Online health-seeking behaviour, health information literacy, and digital competence declined across older age groups, a pattern consistent with broader discussions of the digital divide [10-12]. Similar Turkish evidence has shown that younger adults report higher online health-information seeking than older adults [19]. Education was also strongly associated with online health-seeking behaviour and digital health literacy. These findings suggest that digital health literacy is shaped not only by access to technologies but also by broader educational and information-processing resources [2, 5].

The age-related pattern should be interpreted carefully. Lower digital competence among older outpatients does not mean that older adults cannot benefit from digital health tools. Rather, it suggests that the design and delivery of digital health support should consider usability, confidence, prior experience, and the need for guided practice. Older patients may benefit from demonstrations, printed step-by-step guides, caregiver involvement, and opportunities to ask questions about official digital platforms.

Gender differences showed higher online health-seeking behaviour and digital competence among women. This pattern may reflect differences in health information engagement, but the study did not measure caregiving roles, household health responsibilities, or motivations for seeking information. Occupation-based findings also require caution because retirement status overlaps with age, and the “other” category was large. Clinic-based differences should also be interpreted as exploratory because the sample was balanced by quota rather than randomly selected.

Overall, the findings contribute to the literature by showing that digital health literacy among outpatients is associated primarily with online health-seeking behaviour, while traditional and professional health-seeking remain visible parts of patients’ health

information practices. International studies describe a persistent digital divide in which older age, lower education and limited digital skills constrain the use of online health information [9, 10-12]. The present findings extend that discussion to hospital outpatients in Türkiye, where broad internet and mobile access creates opportunities for digital health engagement but does not eliminate differences in competence, confidence and preferred sources of help [14, 15].

PRACTICAL IMPLICATIONS FOR PREVENTIVE MEDICINE AND PUBLIC HEALTH

The findings have practical implications for health education in outpatient settings. Clinics can provide brief guidance on reliable digital health resources, appointment systems, laboratory result portals, and safe use of online health information. Older adults, retirees, and patients with lower education levels may benefit from simple, visual, and step-by-step support. Health educators should help patients connect online information-seeking with appropriate professional consultation rather than presenting digital information as an alternative to professional care.

Outpatient clinics may be suitable settings for short and low-cost digital health literacy activities. For example, waiting areas can display guidance on how to identify official health websites, use appointment and result systems, evaluate online claims, and discuss internet-based or AI-generated information with clinicians. Such guidance is particularly important because AI-supported search tools may provide fluent but incomplete or non-contextual health information; patients therefore need practical skills for verification, uncertainty recognition and appropriate professional consultation [18].

The high level of traditional health-seeking behaviour suggests that interventions should acknowledge the role of families and social networks. Educational messages can encourage patients to compare advice from relatives, friends, or online sources with professional recommendations. This approach may reduce the risk of misinformation while respecting the social nature of health decision-making.

Clinic-specific tailoring may also be useful. Patients in clinics with older or chronic disease profiles may need more assistance with digital follow-up, appointment management, medication information, and disease-specific resources. Rather than applying a single digital education model to all outpatients, clinics can adapt materials to patient age, education level, and service needs [19].

LIMITATIONS

This study has limitations. It was conducted in a single hospital and used a cross-sectional design, volunteer participation, and quota-based convenience sampling. The findings cannot establish causal relationships or be generalized to all outpatient populations. The data were self-reported and may be affected by recall or social desirability bias.

The analyses were based on nonparametric group comparisons and bivariate correlations, and multivariable regression was not performed. Therefore, the study cannot determine whether observed associations remain significant after simultaneous adjustment for age, education, gender, occupation, and clinic type. The 66 years and older group was relatively small, and the “other” occupational category limited interpretation of occupational differences.

The study did not directly measure several factors that may influence health-seeking behaviour, including chronic disease status, health anxiety, trust in information sources, internet access, digital device ownership, type of device used (PC, smartphone or tablet), caregiver support, frequency of internet use and use of AI-supported tools. It also did not collect information on whether participants lived in urban or rural areas; therefore, urban-rural comparisons could not be conducted. Future studies should include these variables and use multivariable or longitudinal designs to better explain how digital health literacy relates to health-seeking behaviour over time.

Conclusion

Digital health literacy competencies were positively associated with online health-seeking behaviour among hospital outpatients, while traditional health-seeking remained highly visible. Age and education differences suggest that digital health literacy support should be tailored to patients’ needs and capacities.

The findings indicate that digital health literacy should be understood as part of a broader health-seeking context that includes online, professional, and traditional sources. Outpatient clinics may provide useful settings for practical digital health literacy education. Such efforts should help patients find reliable information, evaluate online content critically, and use digital information in ways that complement appropriate professional care.

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Conflicts of interest

The authors declare no conflicts of interest.

Authors' contributions

PT contributed to conceptualisation, supervision, manuscript revision and final approval of the article. MD contributed to data collection, thesis-based study development and preliminary analysis. Both authors reviewed and approved the final version of the manuscript.

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